



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/044,730   | 01/11/2002  | Owen T. Anderson     | RSW920010140US1     | 1599             |
| 7590   | 05/17/2004  |                      | EXAMINER            |                  |
| Jeanine S. Ray-Yarletts<br>IBM Corporation T81/503<br>PO Box 12195<br>Research Triangle Park, NC 27709 |             |                      | LY, ANH             |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2172                |                  |

DATE MAILED: 05/17/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

SK

|                              |                        |                             |  |
|------------------------------|------------------------|-----------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>         |  |
|                              | 10/044,730             | ANDERSON ET AL.<br><i>S</i> |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>             |  |
|                              | Anh Ly                 | 2172                        |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 11 January 2002.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-32 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-32 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date #2. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This Office Action is response to Applicants' communications filed on 01/11/2002.
2. Claims 1-32 are pending in this application.

#### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-4, 7-8, 16-19, 22-23 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,870,734 issued to Kao in view of US Patent No. 5,742,817 issued to Pinkoski.

With respect to claim 1, Kao teaches receiving a request for a referencing object from a client, wherein the referencing object refers to a referenced file system (any directory or file in the hierarchical file system is represented by a vnode from which the

user or client of the system enable to select the desired one to manipulate: see fig. 2, and col. 6, lines 28-58);

looking up a location of the referenced file system in a separate data structure (using look-up routine to search or find where the selected file in the hierarchical file system is. The hierarchical file system includes a plurality of separate directories or separate pathnames: see fig. 2, and col. 6, lines 41-58);

Kao teaches creating file system directory based on file system structure with a plurality of virtual nodes (vnodes), the selected directory nodes can be linked together to create a stack and only on the top of each stack is normally accessible. A lookup routine is used to find or access the specified file or directory name or path name and returning a vnode representing information if it is found to the first occurrence of the name encountered in the search to the caller of the procedure. Kao does not clearly teach returning a redirection message indicating the location of the referenced file system to the client.

However, Pinkoski teaches the transferring message indicating the existence of the alternate path name to be returned to the client or requester of the system (see figs. 7A-7C and col. col. 8, lines 8-65 and col. 5, lines 60-67 and col. 6, lines 1-18).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kao with the teachings of Pinkoski so as to enable to get the returning message for the alternative path name from the user in the network system. The motivation being to have a system receiving

the request for manipulating the selected nodes or files or objects locating in the hierarchical file from the user of the computer network system.

With respect to claims 2-4, Kao discloses a method for servicing a request as discussed in claim 1.

Kao teaches creating file system directory based on file system structure with a plurality of virtual nodes (vnodes), the selected directory nodes can be linked together to create a stack and only on the top of each stack is normally accessible. A lookup routine is used to find or access the specified file or directory name or path name and returning a vnode representing information if it is found to the first occurrence of the name encountered in the search to the caller of the procedure. Kao does not clearly teach wherein the redirection message includes an address of a referenced file system server, wherein the redirection message further includes a path, and wherein the referencing object has a file system identifier.

However, Pinkoski teaches the location or address of the path in the file system server (see fig. 4, col. 5, lines 1-42 and lines 50-67 and see fig. 2, FSID, col. 4, lines 8-32 col. 5, lines 1-20 also see abstract).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kao with the teachings of Pinkoski so as to enable to get the addressing and pathname in the file system and FSID from the user in the network system. The motivation being to have a system receiving the request for manipulating the selected nodes or files or objects locating in the hierarchical file from the user of the computer network system.

With respect to claim 7, Kao teaches wherein the referenced file system server is the requested file system server (remote file system is the file system server: col. 4, lines 18-34).

With respect to claim 8, Kao teaches wherein the separate data structure comprises a file- system location database (each directory storing the file that the client of the system want to search or find is a database that is storing the files: col. 4, lines 18-34, see fig. 1, 2 and col. 5, lines 55-67 and col. 6, lines 1-67).

Claim 16 is essentially the same as claim 1 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 1 hereinabove.

Claim 17 is essentially the same as claim 2 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 2 hereinabove.

Claim 18 is essentially the same as claim 3 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 3 hereinabove.

Claim 19 is essentially the same as claim 4 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 4 hereinabove.

Claim 22 is essentially the same as claim 7 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 7 hereinabove.

Claim 23 is essentially the same as claim 8 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 8 hereinabove.

Claim 31 is essentially the same as claim 1 except that it is directed to a computer product rather than a method, and is rejected for the same reason as applied to the claim 1 hereinabove.

7. Claims 5-6, 9-12, 20-21 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,870,734 issued to Kao in view of US Patent No. 5,742,817 issued to Pinkoski and further in view of US Patent No. 5,463,772 issued to Thompson et al. (hereinafter Thompson).

With respect to claim 5, Kao in view of Pinkoski discloses a method for servicing request as discussed in claim 1.

Kao teaches creating file system directory based on file system structure with a plurality of virtual nodes (vnodes), the selected directory nodes can be linked together to create a stack and only on the top of each stack is normally accessible. A lookup routine is used to find or access the specified file or directory name or path name and returning a vnode representing information if it is found to the first occurrence of the name encountered in the search to the caller of the procedure. Kao does not clearly teach wherein the redirection message includes an address of a referenced file system server, wherein the redirection message further includes a path, and wherein the referencing

object has a file system identifier. Pinkoski teaches the location or address of the path in the file system server (see fig. 4, col. 5, lines 1-42 and lines 50-67 and see fig. 2, FSID, col. 4, lines 8-32 col. 5, lines 1-20 also see abstract). In combination, Kao and Pinkoski do not explicitly teach encoding the file system identifier, wherein the redirection message further includes the encoded file system identifier.

However, Thompson teaches data compression on the file system's architecture (col. 8, lines 12-66, col. 20, lines 1-18 and col. 21, lines 7-18).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kao in view of Pinkoski with the teachings of Thompson so as to have the data procession and decompression on the file systems in the network system. The motivation being to have a system receiving the request for manipulating the selected nodes or files or objects locating in the hierarchical file from the user of the computer network system.

With respect to claim 6, Kao teaches wherein the referencing object is a top level object for a uniform namespace including all file systems on participating file system servers (col. 4, lines 12-34).

With respect to claim 9, Kao in view of Pinkoski discloses a method for servicing request as discussed in claim 1.

Kao teaches creating file system directory based on file system structure with a plurality of virtual nodes (vnodes), the selected directory nodes can be linked together to create a stack and only on the top of each stack is normally accessible. A lookup routine is used to find or access the specified file or directory name or path name and returning

a vnode representing information if it is found to the first occurrence of the name encountered in the search to the caller of the procedure. Kao does not clearly teach wherein the redirection message includes an address of a referenced file system server, wherein the redirection message further includes a path, and wherein the referencing object has a file system identifier. Pinkoski teaches the location or address of the path in the file system server (see fig. 4, col. 5, lines 1-42 and lines 50-67 and see fig. 2, FSID, col. 4, lines 8-32 col. 5, lines 1-20 also see abstract). In combination, Kao and Pinkoski do not explicitly teach identifying an encoded file system identifier in the redirected request, decoding the encoded file system identifier to form a file system identifier corresponding to a requested file system, and retrieving the root of the requested file system using the path for the requested file system.

However, Thompson teaches compression and uncompression or decoding the file system (col. 8, lines 12-66, col. 20, lines 1-18 and col. 21, lines 7-18; also see col. 35, lines 3-16) and the root of the directory (col. 21, lines 32-67 and col. 22, lines 1-3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kao in view of Pinkoski with the teachings of Thompson so as to have the data procession and decompression on the file systems in the network system. The motivation being to have a system receiving the request for manipulating the selected nodes or files or objects locating in the hierarchical file from the user of the computer network system.

With respect to claim 10, Kao teaches wherein the file system identifier data structure comprises a file system identifier table(see fig. 7).

With respect to claim 11, Kao teaches wherein the separate data structure and the file system identifier data structure are stored in a file system location database (each directory storing the file that the client of the system want to search or find is a database that is storing the files: col. 4, lines 18-34, see fig. 1, 2 and col. 5, lines 55-67 and col. 6, lines 1-67).

With respect to claim 12, Kao teaches wherein the referencing object is a top level object for a uniform namespace including all file systems on participating file system servers (col. 4, lines 12-34).

Claim 20 is essentially the same as claim 5 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 21 is essentially the same as claim 6 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 6 hereinabove.

Claim 24 is essentially the same as claim 9 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 9 hereinabove.

Claim 25 is essentially the same as claim 10 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 10 hereinabove.

Claim 26 is essentially the same as claim 11 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 11 hereinabove.

Claim 27 is essentially the same as claim 12 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 12 hereinabove.

8. Claims 13-15, 28-30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,870,734 issued to Kao in view of US Patent No. 5,463,772 issued to Thompson et al. (hereinafter Thompson).

With respect to claim 13, Kao teaches receiving a request for a file system object (any directory or file in the hierarchical file system is represented by a vnode from which the user or client of the system enable to select the desired one to manipulate: see fig. 2, and col. 6, lines 28-58); and

looking up a path for the requested file system in a file system identifier data structure (using look-up routine to search or find where the selected file in the hierarchical file system is. The hierarchical file system includes a plurality of separate directories or separate pathnames: see fig. 2, and col. 6, lines 41-58).

Kao teaches creating file system directory based on file system structure with a plurality of virtual nodes (vnodes), the selected directory nodes can be linked together to create a stack and only on the top of each stack is normally accessible. A lookup routine is used to find or access the specified file or directory name or path name and returning a vnode representing information if it is found to the first occurrence of the name encountered in the search to the caller of the procedure. Kao does not clearly teach wherein the redirection message includes an address of a referenced file system server, wherein the redirection message further includes a path, and wherein the referencing object has a file system identifier. Kao does not explicitly teach an encoded file system identifier, decoding the encoded file system identifier to form a file system identifier corresponding to a requested file system, and retrieving the root of the requested file system using the path for the requested file system.

However, Thompson teaches compression and uncompression or decoding the file system (col. 8, lines 12-66, col. 20, lines 1-18 and col. 21, lines 7-18; also see col. 35, lines 3-16) and the root of the directory (col. 21, lines 32-67 and col. 22, lines 1-3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kao with the teachings of Thompson so as to have the data procession and decompression on the file systems in the network system. The motivation being to have a system receiving the request for manipulating the selected nodes or files or objects locating in the hierarchical file from the user of the computer network system.

With respect to claim 14, Kao teaches wherein the file system identifier data structure is stored in a table (see fig. 7).

With respect to claim 15, Kao teaches wherein the file system identifier data structure is stored in a file system location database (each directory storing the file that the client of the system want to search or find is a database that is storing the files: col. 4, lines 18-34, see fig. 1, 2 and col. 5, lines 55-67 and col. 6, lines 1-67).

Claim 28 is essentially the same as claim 13 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 13 hereinabove.

Claim 29 is essentially the same as claim 14 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 14 hereinabove.

Claim 30 is essentially the same as claim 15 except that it is directed to an apparatus rather than a method, and is rejected for the same reason as applied to the claim 15 hereinabove.

Claim 32 is essentially the same as claim 1 except that it is directed to a computer product rather than a method, and is rejected for the same reason as applied to the claim 1 hereinabove.

### Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ly whose telephone number is 703 306-4527 or via E-Mail: [ANH.LY@USPTO.GOV](mailto:ANH.LY@USPTO.GOV). The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on 703 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703 746-7239.

Any response to this action should be mailed to:

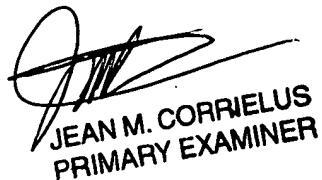
Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: Central Office (703) 872-9306 (Central Official Fax Number)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-6606 or 703 305-3900.



JEAN M. CORRIELUS  
PRIMARY EXAMINER

ANH LY  
MAY 10<sup>th</sup>, 2004